Ridged Lioplax

Lioplax subcarinata

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DESCRIPTION

Taxonomy and Basic Description

The ridged lioplax is a small snail, less than 35 mm (1.37 inches), with a thick spiral shell and whorls with a median low ridge.

Status

The ridged lioplax was originally reported to range from New York to South Carolina. A single specimen was discovered in South Carolina in July 2004 at Lee State Natural Area in Bishopville, Lee County. Two additional specimens were found on the Waccamaw River later that month in Horry County. The species is somewhat more abundant in other parts of its range. NatureServe (2005) identifies the ridged lioplax as S1 status in South Carolina, S3 status in North Carolina and S5 in Virginia, but presumed extirpated in New York.

POPULATION DISTRIBUTION AND SIZE

Dillon's survey in South Carolina (2004) did not locate any specimens of the ridged lioplax. The discovery of three individuals in Lee and Horry Counties suggests that it may be extremely rare in this state.

HABITAT AND NATURAL COMMUNITY REQUIREMENTS

The ridged lioplax is a burrowing species that prefers sandy substrates. Its greater abundance farther north suggests that it prefers cooler climates. One individual found in South Carolina was found in a shallow, clear water section of the Lynches River on a substrate composed of sand and medium-sized pebbles (Laura Kirk Park Interpreter, Lee State Natural Area, personal communication, July 29, 2004.). Two additional specimens were found on the Waccamaw River in an area with dark tannic waters, a muddy substrate, a wide riparian buffer and a stable streambank (T. Savidge, pers. comm., 2005).

CHALLENGES

Based upon its moderate abundance elsewhere, it appears that the ridged lioplax is rare in South Carolina because it is at the edge of its range. However, one recently discovered specimen was found in a very clean stretch of the Lynches River along with other sensitive macroinvertebrates (Laura Kirk 2005). The additional specimens from the Waccamaw River were found in an area where freshwater mussel diversity was high; such diversity usually indicates excellent water quality (. Savidge, pers. comm., January 25, 2005). Therefore, it is possible that the species is

sensitive to water quality. The fact that the ridged lioplax needs to burrow in sand instead of other, more fine-grained material also suggests that this snail may require highly oxygenated clean water environments (R. Dillon, College of Charleston, pers. comm., July 29, 2004).

CONSERVATION ACCOMPLISHMENTS

There are currently no known conservation accomplishments for the ridged lioplax.

CONSERVATION RECOMMENDATIONS

- Conduct studies to determine the habitat requirements of the ridged lioplax.
- Conduct surveys to determine whether the ridged lioplax is present at other sites in South Carolina. Concentrate surveys based on the habitat requirements of this snail (in areas of pristine water quality with sandy bottoms).
- Develop a landowner education program to promote sound land stewardship practices that result in the reduction of non-point source pollution in waterbodies. Specifically focus education efforts in the vicinity of known occurrences for the ridged lioplax.
- Work with partners to establish appropriate recommendations for riparian buffer widths and minimization of impervious surfaces in South Carolina that will help protect stream health.
- Explore the need to determine special concern status for the ridged lioplax, based on survey results.

MEASURES OF SUCCESS

Monitor the number of individuals that are reached through the landowner education program and survey those individuals to determine whether they implement stewardship practices conveyed in that program. Additional knowledge about the ridged lioplax will allow for proper management of this species.